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July 14, 2021

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**VIA ELECTRONIC DDS**

British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

83862/709

Attention: Patrick Wruck, Commission Secretary

**Re: British Columbia Hydro and Power Authority – Public Electric Vehicle Fast Charging Rate Application – Project No. 1599190 (“Proceeding”)  
Suncor Energy Inc. Response to Strata Plan VR 2673 (“SPVR”) Information Request No. 1**

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Dear Mr. Wruck:

We act on behalf of Suncor Energy Inc. (“Suncor”) in connection with the above noted Proceeding. On July 5, 2021, SPVR issued Information Request (“IR”) No. 1 to Suncor on Intervener Evidence. Enclosed please find IR responses filed on behalf of Suncor.

Should you have any questions or require any additional information, please do not hesitate to contact the undersigned.

Sincerely,



Terri-Lee Oleniuk

cc. Chris Hustwick, GM Legal Affairs Downstream Canada, Suncor Energy

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**BRITISH COLUMBIA UTILITIES COMMISSION**  
**British Columbia Hydro and Power Authority (BC Hydro) Public Electric Vehicle Fast**  
**Charging Rate Application**  
**Suncor Energy Inc. (“Suncor”) Response to Strata Plan VR2673**  
**Information Request No. 1**  
**Date: July 14, 2021**

## **I Summary of Issues**

On page 1, paragraph 2, it states: “Suncor has completed installation of twenty-two (22) EV fast charging stations at twelve (12) different locations in British Columbia(“BC”).

1. Please indicate the maximum kW input and output of the EV fast charging stations.

**Response – CCS up to 350kW, CHAdeMO up to 100kW.**

2. Where there is more than one charger, for BC Hydro billing, are they metered individually, or by the site?

**Response – The EV charging system is generally on a separate meter (from the retail business) but is metered by location, not per individual charging post. In the case of our site located in Salmon Arm, BC, we have added our single 50kW charger to the existing utility service for the retail site.**

## **II The Rate Proposal is Inconsistent with the Phase Two Report, CEA and GRR**

On page 4, paragraph 6 contains the statement: “In fact, the Rate Proposal would not allow private sector operators like Suncor to even recover the basic electricity charges billed to them by BC Hydro, without even contemplating recovery of other operational and maintenance expenses, capital or any return on investment. As discussed in greater detail below, the demand charges categorized as “Large General Service” and assessed from BC Hydro constitutes over 80% of Suncor’s basic utility costs for its operational EV charging stations. ”

3. Can you please clarify whether or not the basic electricity charges referred to include or exclude demand charges?

**Response – Basic electricity charges include demand charges.**

4. What is the utilization of EV charging that results in over 80% of Suncor’s basic utility costs for its operational EV charging stations.

**Response – Utilization as a stand-alone factor does not provide sufficient information to determine its impact on demand related charges from operating EV charging stations (80%+ of our utility invoice). Our station utilization rates vary between 2-6% and at those levels demand charges continue to represent 80% or greater of our utility related expenses. See the response to BCUC information request 7.2 for additional information on utilization as the only variable factor in determining rates.**

#### IV BC Hydro's cost calculations for energy and utilization are flawed

On page 7, paragraph 19 states "Suncor has reviewed the data and calculations in support of the Rate Proposal, and believes the calculations to be flawed on the basis of Suncor's own experience as a private EV charging station operator."

5. Is the flaw that BC Hydro has used the MGS rate rather than the LGS rate? If not, what is the nature of the flaw?

**Response – It is Suncor's view that BCH has not accounted for power loss that occurs while the system is not dispensing to a customer (e.g., cooling fans, heaters, screens and payment). Large general service would not be applied to BCH until their system experiences a peak demand higher than 150kW in one month (for example a site with two 100kW chargers used simultaneously). Please refer to Suncor's responses to BCUC information request section 7 for additional information.**

On page 7, paragraph 22, it states:

In Suncor's experience, the information and data collected from the Langley Station is a fair representation of a typical Suncor EV charging site located in BC. This evidence demonstrates that:

- the demand charges categorized as "Large General Service" and assessed from BC Hydro constitutes over 80% of Suncor's basic utility costs as compared to other electricity charges, energy charges, power factors and taxes; and
- not all energy consumed at an EV charging site is billed to an EV driver –the power draw related to power towers and charging equipment can be up to 2-4x the electricity actually sold to a consumer –this is not specifically identified or adequately considered in BC Hydro's utility cost recovery calculations.

6. Is the problem in the second bullet point fully or primarily caused by demand charges, or is this something else?

**Response – The concern articulated in the second bullet point refers to energy that is used to operate the equipment when that equipment is not connected to a customer – for example operating cooling fans, heaters, screens, lights, standby power, etc. – and is not caused by demand charges.**

7. Is there a power loss in the conversion of AC into DC current? If so, can you please specify the percentage loss.

**Response – Inverting from DC to AC and vice versa does cause power loss (efficiency) however we do not have an accurate calculation to specify the percentage loss.**

8. Can you please break down how and why the problem in the second bullet point occurs?

**Response – See the response to information request 6 above.**

On page 9, paragraph 25 states:

Based on the above scenario, when considering power loss through on-going operations, Suncor's evidence is that BC Hydro will not be able to recover its electricity costs (excluding maintenance, capital, and other operating costs) with a 21 cent per minute rate structure for 50kW charging stations, or with a 27 cent per minute rate structure for 100kW charging stations based on their own Cost Recovery Calculations provided in section 4.2 of the application.

9. Does this result change with higher utilization? If so, what utilization is required to recover:

- a. electricity costs (excluding maintenance, capital, and other operating costs) with a 21 cent per minute rate structure for 50kW charging stations, or with a 27 cent per minute rate structure for 100kW?
- b. Same as (a.) above, plus maintenance and other operating costs?
- c. Same as (b.) above plus reasonable amortization of capital costs

**Response – BCH has provided a breakdown of cost recovery models at various utilization rates relevant to their application which can be found in the “rate calculation” section of their application.**

A Peak demand charges (medium and large general service)

On page 9, paragraph 26, the Hydro Quebec's removal of demand charges is discussed.

10. Does this result in an approximate reduction of 80% in your electricity charges?

**Response – The removal of peak demand charges in Quebec has a positive benefit on the invoice payable. While the payable amount is lower, it does not equate to a decrease of 80% when compared directly to invoices from BCH because Hydro Quebec's pricing model reflects a higher charge per kWh.**

On pages 9 and 10, paragraphs 27-29 discuss the BC Hydro Fleet Electrification Rates, and suggest that be applied to [public] EV Fast charging stations.

11. Does such an implementation create a barrier to entry for new participants, who have not benefited for all or some of the subsidized period?

**Response – Suncor does not understand the question being asked. In our opinion, applying these rates would benefit new participants and encourage greater investment in higher power units which would benefit customers.**

12. In particular, is it reasonable to say that demand charges are a huge problem until critical utilization is reached?

**Response – It is reasonable to say that demand charges are a huge problem until exponentially higher utilization is reached.**

13. Would it be fair to implement such a plan with the ramping up for a 5 of demand charges for the 5 year period, from the time the new entrant commences the public fast charging market in BC?

**Response – Introducing demand charges should be re-assessed as adoption in BC changes, thereby increasing utilization of public fast chargers, and removing the conditions outlined in the “Fleet Electrification Rates” – high demand charges due to short-duration, high-load charging.**

### **V BC Hydro proposes to use outdated 50kW units with costs borne by ratepayers**

On pages 10 – 15 the information of the rapidly increasing charging capacity rate (kW) for EVs is useful.

14. Can you provide a breakdown by the most popular EV models and their market share of new EV sales, and correlate that with bands of ability to accept high kW charging rates?

**Response – While this information was at one time available through FleetCarma, they no longer publish this information and we do not have an accurate account of SOM for each OEM. Below we have provided the approximate charging speed of the more popular EV models:**

**Tesla Model S, X, Y, 3 – highest SOM – charging speeds up to >150 kW**

**Nissan Leaf 2021 - ~100kW**

**Chevy Bolt 2021 - ~50kW**

**Porsche Taycan - ~270kW**

**Audi e-tron - ~155kW**

**Ford Mach-e – ~150kW**

**Hyundai Ioniq 5 - >200kW**

**Hyundai Kona – ~77kW**

15. Is it reasonable to state that as the batteries are able to provide longer range, as indicated in Figure 9, that generally that also means that they are capable of accepting power (kW) at a higher rate?

**Response – Unfortunately, this is not a linear calculation. Higher battery rate depends on a number of factors controlled, for the most part, by the vehicle. However, each OEM has demonstrated improvement in this area as customers are interested in reduced on-the-go charging times.**